

**REMARKS****Summary of the Office Action**

Claims 1-6 are rejected under 35 U.S.C. § 103 as being unpatentable over U.S. Patent No. 5,292,688 to Hsiao et al. ("Hsiao") in view of U.S. Patent No. 5,828,126 to Thomas, or U.S. Patent No. 5,468,999 Lin et al. ("Lin"), or U.S. Patent No. 6,324,067 to Nishiyama.

Claims 1-6 are rejected under 35 U.S.C. § 103 as being unpatentable over U.S. Patent No. 5,589,714 to Howard in view of Thomas, or Lin, or Nishiyama.

Claims 1-6 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-18 of U.S. Patent No. 6,586,827.

**Summary of the Response to the Office Action**

Applicants have amended claim 1.

Applicants have canceled claim 6 without prejudice or disclaimer.

Applicants have added new claims 8-11.

Claims 1-5 and 8-11 are pending.

**All Claims Define Allowable Subject Matter**

Claims 1-6 are rejected under 35 U.S.C. § 103 as being unpatentable over Hsiao in view of Thomas, or Lin, or Nishiyama. Applicants have canceled claim 6 without prejudice or disclaimer, rendering the rejections of claim 6 moot. The rejections under 35 U.S.C. § 103, of claims 1-5, are respectfully traversed. Applicants have amended claim 1. Claim 1 recites a wiring board including a core substrate defining an opening, an embedding resin having a

dielectric constant of less than or equal to about 5 and  $\tan\delta$  of less than or equal to about 0.08, an electronic component embedded by the embedding resin in the opening, and a substrate in which a build-up layer is formed by laminating an insulating and a wiring layer in alternate fashion. The substrate in which the build-up layer is formed, is disposed across the opening and in contiguous contact with the core substrate and the embedding resin. Support for these features is provided at, for example, Figs. 1-9 and paragraphs 0086 – 0091, of Applicants' specification as originally filed. The Office Action acknowledges that Hsiao does not show "a structure having a cavity or opening in which the electronic component resides and that the encapsulating material is used to fill the cavity or opening" and relies on Thomas, Lin and Nishiyama for a teaching of a substrate in which a build-up layer is formed by laminating insulating and wiring layers in alternate fashion. However, it is submitted that neither Hsiao, Thomas, Lin, nor Nishiyama, considered alone or in combination, teach or suggest a core substrate defining an opening, an electronic component embedded in the opening by an embedding resin, and a laminated build-up layer formed of an insulating and wiring layer disposed across the opening and in contiguous contact with the core substrate and the embedding resin, as recited in claim 1.

Claims 1-6 are rejected under 35 U.S.C. § 103 as being unpatentable over Howard in view of Thomas, or Lin, or Nishiyama. Applicants have canceled claim 6 without prejudice or disclaimer, rendering the rejections of claim 6 moot. The rejections under 35 U.S.C. § 103, of claims 1-5, are respectfully traversed. Applicants have amended claim 1 as described above. The Office Action acknowledges that Howard does not show "a structure having a cavity or opening in which the electronic component resides and that the encapsulating material is used to fill the cavity or opening." It is submitted that neither Howard, Thomas, Lin, nor Nishiyama, considered alone or in combination, teach or suggest a core substrate defining an opening, an

electronic component embedded in the opening by an embedding resin, and a laminated build-up layer formed of an insulating and wiring layer disposed across the opening and in contiguous contact with the core substrate and the embedding resin, as recited in claim 1.

Claims 2-5 ultimately depend from claim 1, and recite the same combination of allowable features recited in claim 1, as well as additional features that further distinguish over the applied art. For at least the above described reasons, Applicants request that the rejections under 35 U.S.C. § 103, of claims 1-5, be withdrawn.

Claims 1-6 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-18 of U.S. Patent No. 6,586,827. The obviousness-type double patenting rejection of claims 1-5 is respectfully traversed. Applicants respectfully submit that claims 1-5 of the instant application recite features, both structurally and materially, that are not the same as claims 1-18 of U.S. Patent No. 6,586,827, and are patentably distinct from claims 1-18 of U.S. Patent No. 6,586,827. For example, claims 1-5 of the instant application recite “a core substrate defining an opening”, “said electronic component is embedded in the opening by said embedding resin” and “the substrate in which the build-up layer is formed, is disposed across the opening and in contiguous contact with the core substrate and the embedding resin.” The claims of U.S. Patent No. 6,586,827 do not recite these features. Accordingly, Applicants respectfully request that the rejection of claims 1-5 under the judicially created doctrine of obviousness-type double patenting be withdrawn.

Applicants have added new claims 8-11. Support for new claims 8-11 is provided at, for example, paragraphs 0069 and 0091, of Applicants' specification as originally filed. Examination of new claims 8-11 is requested. It is submitted that new claims 8-11 are patentable at least because of their dependence on claim 1, and for additional reasons. For example, new

claims 8-10 recite distance ranges not taught or suggested by the prior art. New claim 11 recites via holes not taught or suggested by the prior art. Applicants respectfully submit that all pending claims are in condition for allowance.

### **CONCLUSION**

In view of the foregoing, Applicants respectfully request reconsideration and the timely allowance of the pending claims. Should the Examiner feel that there are any issues outstanding after consideration of this response, the Examiner is invited to contact Applicants' undersigned representative to expedite prosecution.

If there are any other fees due in connection with the filing of this response, please charge the fees to our Deposit Account No. 50-0310. If a fee is required for an extension of time under 37 C.F.R. § 1.136 not accounted for above, such an extension is requested and the fee should also be charged to our Deposit Account.

Respectfully submitted,

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Dated: April 23, 2004

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